

USER'S MANUAL

VIRTUOSO^R

*Software*TM

**PRELIMINARY
VERSION**

NO TELECOMMUNICATIONS

AVAILABLE IN FREE UPDATE

Patent
Pending
VIRTUSONICS
CORPORATION
New York,
New York

**FOR ATARI
800XL AND
130XE ONLY**

VIRTUOSO(R) SOFTWARE / preliminary version

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1.0 INTRODUCTION

Welcome to VIRTUOSO Software. Most of you have been waiting as long as we have for this program so we're excited to be able to release this preliminary version. We think you will find VIRTUOSO's uniquely flexible features make it the most powerful tool available for artistic expression. We plan to ship the updated and even more versatile 8-bit version to you early this summer.

VIRTUOSO is a new approach to Software tools: it is a complete multimedia program. Express yourself in graphics, music and text; and combine them into fully-animated shows that can be telecommunicated to other VIRTUOSO users.

For the first time you can create fully animated stories combining synchronized graphics, music and text; and modem the results to other VIRTUOSO Software users.

This release of VIRTUOSO Software will give you an introduction to our thinking regarding interactive protocols. We are establishing a standard for the interactive control of graphics, music and text that gives you real-time animation in your studio and can be compressed for interactive telecommunications.

We think our conceptual approach to software architecture will be of interest. In VIRTUOSO terms there are two primary designations for any activity; Object and Category. An Object is any defined condition; graphic, music or text. A Category is any animation applied to an Object.

An Object is a defined set of conditions that can be animated by categories. In graphics, a defined condition is a shape. Graphic Objects are defined by their boundaries. In music, notes grouped together define the boundaries of Music Objects, and in text, words or groups of words define Text Objects.

VIRTUOSO Software allows the interaction of multiple categories and objects. Any category can be applied to any Object. The graphic animation categories are: path, scale, rotate, distort, speed, and color change. The music animation categories are: shift, key, amplitude, volume, rhythm, travel, slide, pivot, and step. The text animation categories are: 4 directional scrolling, blinking, color changes, font and format.

In VIRTUOSO Software there are only Objects and Categories. The proprietary nature of this concept is the basis of our patent applications. In VIRTUOSO we have achieved something unique; real-time animated graphics that are user controllable. This is not a frame by frame animation system, everything happens in real-time.

We recommend that you try new creative approaches with your VIRTUOSO Software. Ordinary picture graphics are cumbersome and difficult to animate. Try drawing small wire frame Objects and applying multiple animation Categories to them.

You can draw two kinds of Graphic Objects; Geometric and Sprite.

A Geometric Object is constructed out of boxes and lines. (Circles will be available in the update

version). Try making an unfilled box or even an Object consisting of multiple unfilled boxes and lines and animate them with scale, rotate and path. (Distortion will be available in the update version). As you will see, the results are a new dimension in home computer graphics.

Sprites (player/missile graphics) are also Objects and can be animated by scale and path. They can be filled or unfilled. Sprites move much faster than Geometric Objects and have visual priority on the screen.

Objects can be filled or unfilled. Filled Geometric Objects are difficult to animate in this version and should be used for stationary backgrounds. Animating a filled Geometric Object can produce unusual visual effects. (In the updated version filled Object animation will be possible).

We have not implemented our bit-map compression techniques in this version. However, you can use stationary filled Objects to suggest backgrounds. Make background graphics by placing stationary filled or unfilled Objects into the Show. These Objects can be removed with the Clear Background command on the Show Editor.

In this version we have provided a flexible standard notation system for composing music. Music can be synchronized with graphics in the Show Editor. In the final version we will introduce a new music control language. The significance of our breakthroughs in real-time graphics control will become more important as the graphic animations become the interactive instrument for creating and performing music.

In this version there are 16 memory locations in each Object and Animation category. You can have up to 12 fully animated Objects running at the same time.

The updated version of VIRTUOSO Software will contain our specialized telecommunications protocol that is compatible with CompuServe and the other major networks. Until you receive the updated version you can use any standard telecommunication package to interact with our VIRTUOSO SIG on CompuServe, with VIRTUOSO Atari SIGS and with other VIRTUOSO users.

If you have any suggestions, questions or problems, please write us at Virtusonics Corporation, 123 Duke Ellington Blvd., New York, NY 10025. Or call between 9AM and 5PM Eastern Time at (212) 316-6945.

We want to hear from you.

GETTING STARTED

To use VIRTUOSO Software, you need an Atari 800XL or 130XE with a color monitor or television, a disk drive and either a Joystick, Koala Pad or Atari Touch Tablet.

Back up your VIRTUOSO Software disk.

In this version there are no VIRTUOSO DOS protocols. Use any standard Atari DOS system to format blank disks, for storage and retrieval of VIRTUOSO files, and to back up your master VIRTUOSO disk.

You can Save up to 12 VIRTUOSO Shows on one single sided floppy disk. The VIRTUOSO Master disk is write protected, this means you can not save to or delete from the master disk. Use newly formatted disks to save and load your Shows.

Plug your Atari Touch Tablet, Koala Pad or Joystick into Atari Port 1.

Insert the VIRTUOSO Software disk into the disk drive. Turn on your Atari.

After the program boots:

Press A for Atari Touch Tablet.

Press K for Koala Pad.

Press J for Joystick.

Instructions for Atari Touch Tablet:

To make a selection from a screen menu, use the drawing pen to move the cursor over your choice, Press the Trigger. (The Trigger is the Red Button on the drawing pen).

To toggle any menu up or down, Press either the Right or the Left Pad Button on the Touch Tablet, or use the Atari keyboards' space bar.

Instructions for Koala Pad:

To make a selection from a screen menu, move the cursor over your choice, Press the Trigger. (The Trigger is the Left Pad Button on the Pad).

To toggle any menu up or down, Press the Right Pad Button on the Pad, or use the space bar.

Instructions for Joystick:

To make a selection from a screen menu, move the cursor over your choice, Press the Trigger. (The Trigger is either button).

To toggle any menu up or down, Press the space bar.

Running a Show

After you select J, A, or K, the Show Editor will appear. Move the cursor to the bottom line, Save/Load Show, Press the Trigger. The Show Library menu will appear with a list of the demo Shows on the VIRTUOSO disk. Move the cursor over Load, Press the Trigger. Move the cursor over the name of the Show you want, Press the Trigger.

Once the Demo Show is loaded from the disk, the Show Editor menu will reappear. Select Run Show, Press the Trigger. The menu will drop, and the Show will run. You can stop the Show by raising the menu. (Pressing the space bar or the pad button).

Repeat this procedure to see the other demo Shows.

2.1 QUICK SHOW

Once you have loaded a Show into the Editors you can use the Library Grids to make your own Show.

Move the cursor over New, Press the Trigger. This will erase the time stream of the loaded Show but will leave the Graphic, Music, Text and Region Libraries intact.

Use the G, M, T, or R, Library Grid areas to decide which Library you want to play with.

For example: Move the cursor over G (Graphics) in the Grids area (not the Editors area), Press the Trigger. This will bring the Graphics Object Library to the numeric Library Grid. Some of the numbers will be inverted, this means that there are Objects stored at that location. Move the cursor over the inverted number 1, Press the Trigger. The menu will drop. Move the cursor to the middle of the screen, Press the Trigger. The Object stored in the Graphic Object Library at number 1 will appear.

Raise the menu. Move the cursor over Run Mode, Press the Trigger. The menu will drop and the Object you selected will be running its animation sequence.

You can raise the menu to Stop the Show and select another Graphic Object or to bring another Library to the Show Editor. Follow the Insert procedures below for instructions.

To Insert a (G), (M), (T), (R), Object into the Show:

1. Move the cursor over the (G), (M), (T) or (R) selection on the Grids Line that contains the Object Library you want, Press the Trigger to bring that Library Grid to the Show Editor.
2. Move the cursor to the number on the Library Grid that contains the Object you want to Insert, Press the Trigger. The menu will drop.
3. Move the cursor to the point on the screen where you want the Insert to begin, Press the Trigger.
4. Raise the menu, select Run Mode or Step Mode.

To Insert Graphic Animations into the Show:

Inserted Animations will take precedence over preexisting Animations of the same type.

1. Move the cursor over (P) Path, (S) Scale, or (R) Rotate on the Grids line to get the Animation Library you want, Press the Trigger to bring that library Grid to the Show Editor, the menu will drop.
2. Move the cursor to the number on the library Grid that contains the Animation you want to Insert, Press the Trigger.
3. Move the cursor to the Object on the screen you want edit, Press the Trigger. The menu will reappear.

To Insert Music Animation into the Show:

1. Move the cursor to the voice number (1,2,3,4) you want edit, Press the Trigger.
2. Move the cursor over (S) Shift, (M) Mode, (E) Envelope, (A) Amplitude on the Grids line to get the Animation library you want, Press the Trigger to bring that library Grid to the Show Editor.
3. Move the cursor to the number on the library Grid that contains the Animation you want to Insert, Press the Trigger.

Use Step mode or Run mode at any time to locate a point in the Show where you want to Insert.

To make new Objects or Animations follow the procedures in Chapters 4.0 (Graphics), 5.0 (Music) and 6.0 (Text and Regions).

SHOW EDITORS FLOW

Use the Editor to synchronize and edit Shows by combining Objects and Animations from the Graphics (G), Music (M), Text (T), and (Region (R), Object and Animation Editors.

The Delete Event Editor is used when you have chosen to edit a numeric Marker or a point in time on the (G), (M), (T) or (R) Time Lines of the Show Editor menu. The numeric Marker you have chosen represents an Event(s) beginning at that point in the Show.

The Animation Editors are used to create motion animations for G, M, or T Objects.

Editors takes you to either the (G), (M), (T), or (R) Object Editor, where you can edit existing Objects and Animations or create new ones. To go to an Object or Animation Editor, move the cursor over the (G), (M), (T) or (R) position on the Editors line and Press the Trigger. This will take you to the Editor selected.

The Graphic (G), Music (M), Text (T), and Region (R) Time Lines have numeric markers that indicate the position and number of Events in the Show. The Marker number represents how many Events begin at that time.

Library Grids are used to bring a selected Object or Animation Library Grids to the Show Editor menu. Once you have selected a Library Grid, Objects or Animations from that Library Grid can be Inserted into the Show.

Use (R) Region to configure the screen into up to 8 intermixed Text and Graphic areas. Use Set Palette to define individual color palettes for your Graphic and Text Regions.

Use Save Show or Load Show to access your storage disks.

The Graphic Object Editor is used to create new Graphic Objects. A Graphic Object consists of a shape which can be animated in the Path, Scale and Rotate Editors, which are accessed from the Object Editor.

The Path Animation Editor is used to create motion Paths for Graphic Objects.

The Scale Animation Editor is used to make an Object proportionally grow and shrink.

The Rotation Animation Editor is used to spin an Object around its center point.

The Text Object Editor is a simple word processor for writing Text to be used in a Show. A Text Object consists of words or letters grouped as Objects which can be Animated by either a right to left Scroll, or a left to right Scroll.

Use the Scroll Animation Editor to sequentially move the letters of a Text Object either left to right or right to left within a Text Region.

The Music Editor is used to create original music or to select Library music to be synchronized in a Show.

Use the Music Animation Editors to create and insert animations into the Show.

Use Shift to create a pattern of notes that will become the starting note for each sequential repeat of your original Object. Shift Animation is a transposer, every note is shifted up or down and the Key remains the same.

Use Key to create a pattern of notes that will become the starting note for each sequential repeat of your original Object. Key Animation is a transposer, every note is moved the same interval up or down and the Key changes with each new starting note.

Use the Amplitude Animation Editor to set loudness or softness of the notes.

3.0 THE SHOW EDITORS

The Show Editor is the heart of the VIRTUOSO Software control system. Use this Editor to create and edit Shows by synchronizing and editing Objects and Animations. In the Show Editor you can either Load a Show from the Show Library or create a new Show by combining Objects and Animations from the Graphics (G), Music (M), Text (T), and Region (R), Object and Animation Editors.

The Show Editor accesses all the VIRTUOSO Software Object Editors. Use these Editors to create (G), (M), (T), and (R) Objects and to access the Animation Editors.

There are two categories of Object editing:

- 1) You can make Objects.
- 2) You can Animate Objects.

Objects and Animations are stored individually in their own editors. Objects combined with Animations are stored in the Object Editors.

NOTE: In VIRTUOSO Software terminology, an Object is a (G) shape, (M) notes, (T) word, or (R) region to which Animations can be applied. Graphic shapes are Animated by Path, Scale and Rotation; Music pitches are Animated by Shifts, Modes, Envelopes and Volume; and Text words are Animated by Scrolling. (R) Regions are also Objects but they are not animated.

A Show is a synchronized series of (G), (M), (T), and (R) Objects and their applied Animations edited into a Time Stream. The Length of the Show is determined by the duration of all its combined Objects and Animations.

An Event is any activity (insertion or deletion of an Object or Animation) in the time stream of a Show. Any edit you make in the Show will be represented by a numeric marker on the (G), (M), (T) and (R) Lines. When you want to remove one of these Events from the time stream of the Show, use the Delete Event Editor.

FIGURE 3.1 SHOW EDITOR MENU

RUN SHOW		REPEAT	ON	OFF
----------	--	--------	----	-----

SHOW TIME CLOCK	UP	00:00:00	DN
SET STEP INCREMENT	UP	:00	DN

A	*-----V-----*
G	*--X-----X--X--X--*
M	*---X-----X--XX-----*
T	*---X-----X-----X---*
R	*-----X--X-----X-----*

DELETE OBJECT	STOP ANIMATION
---------------	----------------

RUN MODE	STEP MODE
----------	-----------

NEW

	P	S	R	G
S	K	E	A	M
1	2	3	4	
			S	T
				R

1	9
2	10
3	11
4	12
5	13
6	14
7	15
8	16

EDITORS

G	M	T	R
---	---	---	---

SAVE/LOAD SHOW

3.1 SHOW EDITOR

Introduction to the Show Editor:

A Show is a synchronized series of Objects and Animations edited into a time stream of Events.

There are three ways to locate the position in the Show that you want to edit: Run Mode, Step Mode and the Show Time Clock. These are "stopwatch" modes that allow you to move incrementally through the Show.

OBJECT AND ANIMATION PROCEDURES

To Insert Objects:

1. Move the cursor over (G) Graphics, (M) Music, (T) Text, or (R) Region, in the Library Grids area to get the Object library you want, Press the Trigger to bring that numeric library Grid to the Show Editor. The name of the library will appear over the Library Grid.
2. Move the cursor to the number in the Library Grid that contains the Object you want to Insert, Press the Trigger, the menu will drop.
3. Move the cursor to the point on the screen where you want the Insert to begin, Press the Trigger.

To Insert Graphic Animations:

Inserted Animations will take precedence over preexisting Animations of the same type.

1. Move the cursor over (P) Path, (S) Scale, or (R) Rotate in the Library Grids area to get the Animation library you want, Press the Trigger to bring that numeric Library Grid to the Show Editor. The name of the library will appear over the Library Grid.
2. Move the cursor to the number on the Library Grid that contains the Animation you want to Insert, Press the Trigger, the menu will drop.
3. Move the cursor to the Object on the screen you want edit, Press the Trigger, the menu will reappear.

To Insert Music Animations:

1. Move the cursor to the Music voice number (1,2,3,4) you want to edit, Press the Trigger.
2. Move the cursor over (S) Shift, (K) Key, (A) Amplitude, on the Library Grids area to get the Animation library you want, Press the Trigger to bring that numeric Library Grid to the Show Editor. The name of the library will appear over the Library Grid.
3. Move the cursor to the number on the Library Grid that contains the Animation you want to Insert, Press the Trigger.

To Insert Regions:

1. Move the cursor over (R) Region, in the Library Grids area to get the Region library you want, Press the Trigger to bring that numeric Library Grid to the Show Editor. The name of the library will appear over the Library Grid.
2. Move the cursor to the number in the Library Grid that contains the Region you want to Insert, Press the Trigger, the menu will drop.

To Insert Text Animations

In this version Text can be Animated only by a right to left or left to right Scroll within its Region. Once you have Inserted your Regions you can Insert Texts to appear line by line or by Scrolling. Use the (S) Scroll Animation feature when Inserting your Text. (The final version will have four directional Scrolling).

Use Run Mode or Step Mode to move through the time stream of the Show to make edits. You can Step through the Show in the time increment you choose in Set Step Increment. Step Mode and Run Mode provide a "stopwatch" for locating positions in the Show so you can make accurate edits. As you Run or Step through the Show, the Show Time Clock automatically advances to display the current time.

Another way to move through the Show for editing is to use the Show Time Clock to "jump" forward or backward in time.

NOTE: During Run or Step mode the Show Time Clock on the bottom of the screen displays your current position in the Show. When there is a Text Region running the clock will not be visible.

The (A) Arrow Time Line has a pointer, indicating your position relative to the Events on the (G), (M), (T) and (R) Lines below it. The numeric markers on the (G), (M), (T) and (R) Lines indicate the position and number of Events beginning at that time in the Show.

The Show Time Clock indicates your position in the Show and is used to locate the center point of the Event window. The (GMTR) Time Lines Event window has a fixed length of 30 seconds. Events occurring 15 seconds before and 15 seconds after the time set on the Show Time Clock will be displayed as numeric markers on the (GMTR) Lines. Events are represented by numeric Event markers on the (G), (M), (T) and (R) Lines.

The pointer on the Arrow Time Line will mark your current position within the 30 second Show window.

(In the final version you will be able to set the Length of time in the Event window).

Description of Show Editor Commands:

RUN SHOW

Run Show allows you to view an entire Show. To stop the Show raise the menu (Press the Pad Button).

Use Repeat On to continuously loop the entire Show. Use Repeat Off to Run the entire Show once.

REPEAT ON/OFF

Repeat On allows the Show to run continuously. Repeat Off runs the Show once. Repeat Off is the default mode.

This is a Show performance function, not an Editor function. (In the final version, Repeat Loops for Objects and Animations within the Show can be made within designated time Segments and Editors).

NEW

Use New to clear the Event time stream and begin a new Show. New removes all Object and Animation Events from the current time stream. New does not effect the contents of the Library Grids.

SHOW TIME CLOCK

The Show Time Clock indicates your current position in the Show. If you are in Run Mode or Step Mode, this clock will appear on the bottom of the screen and display the current running time. When the Show Menu is raised the Show stops and the current running time appears in the Show Time Clock.

NOTE: During Run or Step mode the Show Time Clock on the bottom of the screen displays your current position in the Show. When there is a Text Region in the time stream this clock will not be visible.

By setting the numbers on the Show Time Clock you can "jump" forward and backward in time through the Show.

To set the Clock, move the cursor over either up (to move forward) or down (to move backward), Press the Trigger. When the Clock reaches the time you want, move the cursor over the numbers of the clock setting you have just made and Press the Trigger. The Show will now jump to the selected time.

NOTE: VIRTUOSO Software will take a few seconds to calculate the new Show time, drop the menu and display that point in the Show on the screen.

The (G), (M), (T) and (R) Lines of the menu will display markers for the Events occurring within a 30 second window of the Show Time Clock. (15 seconds before the set time and 15 seconds after).

SET STEP INCREMENT

Set Step Increment allows you to set the amount of time each Step Increment will advance the Show in Step Mode. By setting a Step Increment you can accurately control the amount of Time each Step contains.

To set the Step Increment, move the cursor over either up (to increase) or down (to decrease), Press the Trigger. When the Clock reaches the Step Increment you want, Release the Trigger to stop and set the Increment.

In Step Mode, each time you Press the Trigger the Show will advance by the amount of time Set in Step Increment.

Increments can be set from 1/60th of a second (:01) up to maximum of 1 second (:60). The default time is 1/10th of a second (:10).

FIGURE 3.2 (A), (G), (M), (T), (R) TIME LINES

A	*-----V-----*
G	*--X-----X--X--X--*
M	*---X-----X--XX-----*
T	*---X-----X-----X-----*
R	*-----X--X-----X-----*

ARROW TIME LINE

The pointer on the Arrow Time Line marks the point in the 30 second Event window of the Show that you are currently viewing.

When using the Show Time Clock or in Step Mode and Run Mode the pointer Arrow automatically moves along the Arrow Time Line and will point to your current position when you raise the menu.

The pointer Arrow indicates your position in the Show relative to the Events on the (G), (M), (T) and (R) Lines. It helps you locate specific times and Events for accurate editing.

GRAPHIC, MUSIC, TEXT AND REGION TIME LINES

The Graphic (G), Music (M), Text (T), and Region (R) Time Lines have numeric markers that indicate the position and number of Events in the Show. The Marker number represents how many Events begin at that time. They are guides for editing Animations and Objects in the Show. Each (G), (M), (T) or (R) Time Line contains only the Events specific to that category.

Once you have chosen the Event or point in time you want to edit, follow the Insert or Delete commands.

NOTE: The numeric Markers on the Time Lines are points in the Show where Events begin. Selecting a marker takes you to the Delete Event Editor where Events can be removed.

DELETE OBJECT

Delete Object allows you to remove Objects from the Show time stream.

There are two ways to Delete an Object from the Show.

One: 1. Move the cursor over the numeric marker on the (G), (M), (T), or (R) Line that contains the Object you want to Delete, Press the Trigger.

2. This will take you to the Event Editor where you can make your Deletions.

Two: 1. Select Delete Object, the menu will drop.

2. Move the cursor to the Object on the screen that you want to Delete, Press the Trigger.

NOTE: In cases where there are multiple Objects running at the same time on the screen you may want to use the Event Editor for more accuracy.

Use Step or Run to locate the position of the Object you want to Delete.

STOP ANIMATION

Use Stop Animation to interrupt the Animations of Objects running in the Show.

NOTE: There is a difference between Stop Animation and the Delete Event Editor: with Delete you remove the entire Animation from its beginning, with Stop you can halt the Animation at any time in its progression through the time stream. Stopped Animations will not effect other Animations running with the same Object.

To Stop Graphic Animations:

1. Select Stop Animation.
2. Move the cursor over (P) Path, (S) Scale, or (R) Rotate in the Graphic area of the Library Grids, Press the Trigger, the menu will drop.
3. Move the cursor to the Object on the screen you want to edit, Press the Trigger.

To Stop Music Animations:

1. Select Stop Animation.
2. Move the cursor to the voice number (1,2,3,4) you want to edit in the Music area of the Library Grids, Press the Trigger.
3. Move the cursor over (S) Shift, (K) Key, (E) Envelope, or (A) Amplitude in the Music area of the Library Grids to select the Animation you want, Press the Trigger.

To Stop Text Animations:

1. Select Stop Animation.
2. Move the cursor over (S) Scroll in the Text area of the Library Grids, Press the Trigger, the menu will drop.
3. Move the cursor to the Text Region on the screen you want to edit, Press the Trigger.

Use Step Mode or Run to locate the position of the Object whose Animation you want to Stop.

RUN MODE

In Run Mode, the Trigger acts as a continuous on/off toggle: each time the Trigger is Pressed and released the Show Runs. To stop in Run Mode, Press the Trigger again.

Once you have "run" through the Show to the point in time you want to edit: (1) Press the Trigger to Stop, (2) raise the menu (Press the Pad Button), (3) follow the Insert or Delete commands for your edit.

STEP MODE

Step Mode allows you to move incrementally through the Show.

In Step mode, edits as precise as 1/60th of a second are possible. Each time the Trigger is Pressed and held down, the action of the Show continues in the set Increment until the Trigger is released, stopping the action.

Once you "Step" through the Show to the point in time you want to edit: (1) Release the Trigger to Stop, (2) raise the menu (Press the Pad Button), (3) follow the Insert or Delete commands for your edit.

LIBRARY GRIDS

Library Grids are used to bring a selected Object or Animation Library Grids to the Show Editor menu. Once you have selected a Library Grid, Objects or Animations from that Library Grid can be Inserted into the Show.

To Insert Objects or Animations into the Show, bring the appropriate Library Grid to the Show menu, move the cursor over the number on the Library Grid that contains the Object or Animation you want, Press the Trigger. (See Section 3.1 for description of commands).

FIGURE 3.3 LIBRARY GRIDS

	P	S	R	G	1	9
					2	10
1	2	3	4	M	3	11
					4	12
S	K	E	A		5	13
					6	14
			S	T	7	15
					8	16
				R		

NOTE: Each Object Editor in the Library Grids area is grouped with the Animations appropriate to that Editor.

Graphics:

(G) Graphics are Animated by: P (Path), S (Scale), and R (Rotate). In order to Animate a Graphic Object you must select the Object on the screen (See Section 3.1 for description of commands).

Music:

(M) Music is Animated by: S (Shift), K (Key), (E) Envelope, and A (Amplitude). In order to Animate Music Objects you must select voice 1, 2, 3 or 4 before you insert an Animation. (See Section 5.1 for description of commands).

Text:

(T) Text is Animated by: S (Scroll). In order to have Text Objects, you must select a Text Region.(See Section 6.1 for description of commands).

Region:

(R) Region is not Animated. Each Region can have its own color palette, which can be changed at any time in the Show time stream.

To bring a Region Editor Library Grid to the Show Editor, move the cursor over the (R) position on the Library Grid area, Press the Trigger.

Use (S) Scroll, in the Library Grid area, to control the Animation of Text within its Region. Scroll On causes your Text to appear, one letter at a time, in a right to left scroll or left to right.

EDITORS

Editors takes you to either the (G), (M), (T), or (R) Object Editor, where you can edit existing Objects and Animations or create new ones.

NOTE: New Objects and Animations must be saved before they can be added to the Show. Exiting from an Editor automatically saves the contents of the Editor to the next available storage position (1-16) on the Library Grid, or you can select the storage position yourself using the Save command.

To go to an Object or Animation Editor, move the cursor over the (G), (M), (T) or (R) position on the Editors line and Press the Trigger. This will take you to the Editor selected. Once you are in an Editor follow the instructions for that Editor, or proceed to the Animation Editors.

NOTE: Animation Editors are accessed from the (G), (M) and (T) Object Editors.

SAVE/LOAD SHOW

Takes you to the Show Library where you can save a Show to or load a Show from your storage disks. (See Section 3.5 for description of commands).

3.2 DELETE EVENT EDITOR

The Delete Event Editor is used to remove Events from the time stream of the Show.

FIGURE 3.4 DELETE EVENT EDITOR MENU

1	5
2	6
3	7
4	8
SHOW ME	DELETE

EXIT TO SHOW EDITOR

An Event is any action taken in the time stream of the Show. Any time you Insert or Delete an Object, or Insert or Stop an Animation in the Show that action will be recorded as an Event Marker on the (G), (M), (T) and (R) Time Lines. All Events are listed on the Delete Event Editor menu. Use this Editor any time you want to remove an Event.

For example: If you have Inserted a Path to a Graphic Object, and later you decide you no longer want the Path to be Inserted at that point. Use the Delete Event Editor to remove the Path Insertion Event from the time stream.

The Delete Event Editor is used when you have chosen to edit a numeric Marker or a point in time on the (G), (M), (T) or (R) Time Lines of the Show Editor menu. The numeric Marker you have chosen represents an Event(s) beginning at that point in the Show.

NOTE: You can not Insert an Object or an Animation into the Show from this Editor. Use this Editor to Delete your Event commands. If you select Delete, only the specified Event will be deleted from the time stream of the Show.

Deleting an Animation Event does not delete the Object. Deletions of Events in the Delete Event Editor do not effect the contents stored in the Object or Animation Editor Library Grids.

SHOW ME

Use Show Me to preview the Events listed, and to identify the Object or Animation you want to Delete.

1. Move the cursor over Show Me, Press the Trigger.
2. Move the cursor over the position on list containing the Event you want to preview, Press the Trigger.

The cursor-arrow on the screen will point to a freeze-frame image at the point in the Show you selected. If the cursor is pointing to the Event you want to Delete, raise the menu (Press the Pad Button) and select Delete.

If the cursor-arrow is not pointing to the Event you want to Delete, repeat the Show Me procedure.

DELETE

Use Delete to remove an Event from the time stream of the Show.

NOTE: Deleting an Animation Event does not delete the Object. Deletion of Events in the Delete Event Editor does not effect the contents of the Object or Animation Editors.

EXIT TO SHOW EDITOR

Takes you back to the Show Editor.

3.3 REGIONS AND PALETTE EDITORS

Use (R) Region to configure the screen into up to 8 intermixed Text and Graphic regions.

In this Editor you can intermix up to 8 horizontal regions for Text (words and sentences) and Graphics (Objects and Animations). Any horizontal area of the screen can be designated as a Region for either Text or Graphics.

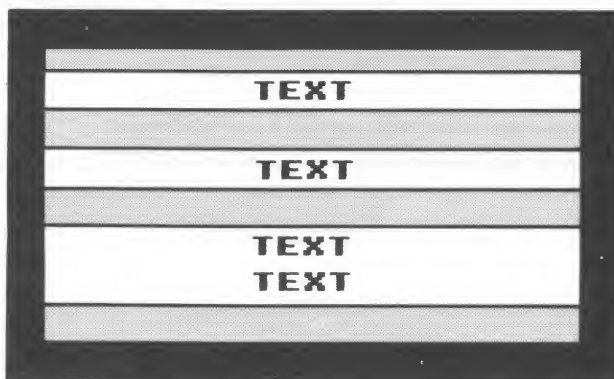
NOTE: A Region must extend the full horizontal width of the screen. Each Text region can have its own color palette: background/character and border. In this version the background and the character must have the same color, but they can have different luminescences. Each Graphic region can have an its own four color palette, chosen from the entire color palette. Select (R) to get to the Regions Editor where you can make separate Text and Graphic areas (Regions) on the screen.

Once you have defined Text and Graphic Regions, you can select individual color Palettes for each Region.

FIGURE 3.5 REGION EDITOR MENU

MAKE TEXT REGION	MAKE GRAPHIC REGION	1 9
GET PALETTE		2 10
		3 11
SAVE		4 12
		5 13
LOAD		6 14
		7 15
EXIT TO SHOW EDITOR		8 16

FIGURE 3.6 EXAMPLE OF INTERMIXED REGIONS



In the Figure above only the Text Regions were defined. The spaces between the T (Text) Regions are still Graphic Regions.

NOTE: Inserting a full Graphic region into the Show has the effect of "replacing" all the Text Regions. The only way to edit a Text Regions from the Show is to Insert a Graphic Region in its place. This will have no effect on the Objects or Animations that are running at that time. Using the Delete Event Editor will remove a Region and return the Show to the last Region set.

MAKE TEXT REGION

Use Make Text Region to define areas of the screen to be used for Text.

Select Make Text Region, the menu will drop. Move the cursor to the position on the screen where you want the Text Region to begin, Press the Trigger. Move the cursor up or down from that position until you reach the size Region you want, Press the Trigger.

You can make up to 8 intermixed Regions at a time on the screen, in any height or position. repeat the Make Text Region procedure each time you want another Region on the screen.

(In this version you can not see a preview of your Text Region as you move the cursor, in the final version this feature will be provided.)

Once you have made your Regions, raise the Menu (Press the Pad Button) and select Save. Move the cursor over the number on the Library Grid where you want you save your Regions screen, Press the Trigger.

MAKE GRAPHIC REGION

Use Make Graphic Region to define areas of the screen to be used for Graphics.

Usually, the screen is dedicated to Graphic modes. If you make Text Regions the rest of the screen is still Graphic oriented.

Select Make Graphic Region, the menu will drop. Move the cursor to the position on the screen where you want the Graphic Region to begin, Press the Trigger. Move the cursor up or down from that position to make the Region, Press the Trigger.

You can make up to 8 intermixed Regions at a time on the screen, in any height or position. Repeat the Make Graphic Regions procedure each time you want another Region on the screen.

(In this version you can not see a preview Region as you move the cursor, in the final version this feature will be provided.)

Once you have made your Regions, raise the Menu (Press the Pad Button) and select Save. Move the cursor over the number on the Library Grid where you want to save your Regions screen, Press the Trigger. Use Set Palette to add color palettes to your Regions before you save them.

SET PALETTE

Use Set Palette to define individual color palettes for your Graphic and Text Regions. (See Section 3.4 for description of commands).

Select Set Palette, the menu will drop. Move the cursor over either a Text or a Graphic Region on the screen, Press the Trigger. This will take you to the Text or Graphic Palette Editor where you can define a color palette for that Region.

LOAD

Use Load to add a Region from the Library Grid into the Region Editor. Inverted numbers on the Library Grid indicate stored Regions.

Select Load and place the cursor over an inverted number on the Library Grid, Press the Trigger to Load a Region from the selected number. The menu will drop and that Region screen will be inserted into the Region Editor.

SAVE

Use Save to save a Region screen to the Region Library Grid.

Select Save, place the cursor over a number on the Library Grid, Press the Trigger to save the Region to the selected number. The number will invert, indicating that the Region screen has been stored.

WARNING

REMEMBER: If you place the cursor over an inverted number, you will replace the Region previously stored at that number with the new Region, and your previous work will be lost.

EXIT TO SHOW EDITOR

Takes you back to the Show Editor.

3.4 PALETTE EDITORS

Use the Graphic and Text Palette Editors to define separate color palettes for each Graphics and Text Region.

The Palette Editors are divided into three sections:

1. The Color Bars or sample Text Bar represent the current color palette.
2. The Current Color List lists the colors and their luminescences.
3. The Color Editor which is used for changing, saving and loading color palettes.

3.4.1 GRAPHIC PALETTE EDITOR

Use the Graphic Palette Editor to define separate four-color palettes for each Graphic Region.

The Graphic Palette menu displays six color bars plus the background color on the screen. Each bar represents one of the current colors used in the Graphic Object Editor: SP 1, 2, 3, (Sprites); GEO 1, 2, 3, (Geometrics); and the BACK (Background).

The Current Color List, below the color bars, lists the current colors and their luminescences of the Graphics: SP 1, 2, 3, (Sprites); GEO 1, 2, 3, (Geometrics); and the BACK (Background).

The Color Editor is used to change the current colors of the Graphic Objects. This Editor lists the 16 available colors, and provides 8 luminescences for each color.

FIGURE 3.7 GRAPHIC PALETTE EDITOR MENU

CURRENT COLOR LIST

SPR1		GEO1	
SPR2		GEO2	
SPR3		GEO3	
BACK			

COLOR EDITOR

GRAY		BLUE		RESTORE			
LT ORANGE		LT BLUE		RESET			
ORANGE		TURQUOISE		EXIT TO REGION EDITOR			
RED ORANG		GREENBLUE					
PINK		GREEN					
PURPLE		YELLOWGRN					
PURPLEBLU		ORANGEGRN					
0	1	2	3	4	5	6	7

To change the current palette:

1. Move the cursor over either the Color Bar or the line on the Current Color List that you want to change, Press the Trigger.
2. Move the cursor over one of the color or luminescence selections on the Color Editor, Press the Trigger. This will immediately change the color bar and the list. If you do not have the color or luminescence you want, repeat this procedure.
3. When you have the color(s) you want return to the Region Editor and Save the color Region on the Library Grid.

NOTE: Luminescence controls the brightness of a color. The available luminescences range from 00, the darkest, to 07, the brightest.

3.4.2 TEXT PALETTE EDITOR

Use the Text Palette Editor to define a color palette for Text Regions.

FIGURE 3.8 TEXT PALETTE EDITOR MENU

CURRENT COLOR LIST

BACKGROUND	
CHARACTER	
BORDER	

COLOR EDITOR

GRAY			BLUE			RESTORE		
LT ORANGE			LT BLUE			RESET		
ORANGE			TURQUOISE					
RED ORANG			GREENBLUE					
PINK			GREEN			EXIT TO REGION EDITOR		
PURPLE			YELLOWGRN					
PURPLEBLU			ORANGEGRN					
0	1	2	3	4	5	6	7	

To change the current palette:

1. Move the cursor over the either Background or Character on the Current Color List, Press the Trigger.
2. Move the cursor over one of the color or luminescence selection on the Color Editor, Press the Trigger. This will immediately change the color of the sample Text Region and the list. If you do not have the color or luminescence you want, repeat this procedure.
3. When you have the color you want move the cursor over Save, Press the Trigger.

The Text Palette menu displays a sample Text Region. This Region shows the current two-color Text palette; background/character color and border color.

NOTE: The background and the character must be the same color. However they can have different luminescences. This means that you can have the appearance of "floating text" by selecting different luminescences for the character.

The Current Color List, below the Text Region, lists the colors and luminescences of the current Text palette.

The Color Editor is used to change the colors of the Text background/characters and border. This Editor lists the 16 available colors, and provides 8 luminescences for each color.

NOTE: Luminescence controls the brightness of a color. The available luminescences range from 00, the darkest, to 07, the brightest.

In both the Text and Graphic Palette Editors, drop the menu (Press the Pad Button) to see the selected Region. To change the palette on another Region, move the cursor over the Region, Press the Trigger. This will keep you in the Palette Editors where you can make color changes. When you have made all your changes, select To Regions, and then Save your palettes in the Region Editor Library Grid.

RESTORE

Use Restore to return the entire color palette to its original setting.

RESET

Use Reset to return the color you are currently editing to its original setting.

EXIT TO REGION EDITOR

Takes you back to the Region Editor.

3.5 SHOW LIBRARY

FIGURE 3.9 SHOW LIBRARY MENU

LOAD	SAVE	DELETE
EXIT TO SHOW EDITOR		

1	7
2	8
3	9
4	10
5	11
6	12

SAVE

Use Save Show to save a Show to your storage Disk under a new or existing name. (Each Show name can be up to 11 characters).

Select Save, move the cursor to the position on the Library list where you want to save your show, Press the Trigger. Use the keyboard to type the name of your Show, (up to 11 characters), Press Return.

LOAD

Use Load Show to load a Show from your storage disk into the Show Editor.

Select Load, move the cursor to the Show name on the Library list that you want to Load, Press the Trigger. This will automatically take you to the Show Editor.

DELETE

Use Delete Show to Delete a Show from your storage disk.

Select Delete, move the cursor to the Show name on the Library list that you want to Delete, Press the Trigger.

WARNING

Deleting a Show deletes everything connected with that Show. Deleting a Show will not only remove your Show Time Stream, it will also delete all the Object and Animation Libraries created in conjunction with that Show.

All Object and Animation Libraries are saved within a Show in the Show Library. You can Save Objects and Animations without a Time Stream in the Show Library by giving them a Show Name. If you have already created a Time Stream, and want to delete just the Time Stream but not the Objects and Animation Libraries, use the New command in the Show Editor. This will delete just the Time Stream. DO NOT use the Delete Show command in the Show Library unless you want to delete everything.

EXIT TO SHOW EDITOR

Takes you to the Show Editor.

4.0 GRAPHIC OBJECT AND ANIMATION EDITORS

The Graphic Object Editor is used to create new Graphic Objects. A Graphic Object consists of a shape which can be animated in the Path, Scale and Rotate Editors, which are accessed from the Object Editor.

NOTE: In VIRTUOSO Software terminology, an Object made up from multiple shapes is treated as one Object: any Animations that you apply to an Object effects the entire Object.

There are different kinds of Graphic storage for Object and Animation. Objects and Animations are stored separately in numeric library Grids in their respective Editors. To store Objects with their Animations return to the Graphic Object Editor after creating the Animations and store the Object in the Graphic Object Editor library Grid.

The numeric library Grids (1-32) are displayed on the Graphic Object and Animation Editors. Use Load to load Objects and Animations into an Editor from the Grid. Use Save to save the Objects or Animations to the Grid.

NOTE: In VIRTUOSO Software terminology, Path, Scale and Rotate are Graphic Animations. In Scale mode, draw small Objects. Scaled Objects that exceed 60 X 60 pixel boundary limits will not Scale smoothly. Rotations that exceed the 60 X 60 pixel boundary limitation will not rotate smoothly.

Objects are saved in the Graphic Object Grid. Animations are saved in the Animation Grids and can be stored with the original Object in the Graphic Object Grid.

NOTE: Animations must be applied to Objects. You can not create an Animation without an Object. You can create an Object without Animations, and then create a series of Animations to be later applied to that Object. For example: you might have an unanimated Object in a Show that you want to begin animating later in the time stream: (1) store the Object on its Grid without Animations, (2) use the Object in the Animation Editor to create the Animations you want, (3) store the Animations only in the Animation Grid, (4) Insert the Animation into the Show.

The idea is to let you apply any Animations to any Object in the Show. For example: you might want to create a series of Paths to be sequentially applied to various Objects in the Show. You must use an Object when you create your initial Animations so that the Animations can be previewed. Once you have created and stored an Animation you can apply that Animation to any Object in the Show.

Animations stored with an Object become a part of that Object but can be saved independently in Animation Editors.

Animation Editors can only be accessed from the Graphic Editor and from each other.

Animation Editors can also be accessed from the Show Editor, through the Graphic Object Editors.

NOTE: In this preliminary version of VIRTUOSO Software there are two types of Graphic drawing modes: Geometric and Sprite (Player/Missile (PM) Graphics). (In the final version, the third drawing mode will be Background.) The maximum number of Objects allowed on the screen at the same time is 11. (8 Geometric, 3 Sprites). Additionally, there can be 4 Text windows divided into as many as 8 Regions. Each Region can have its own color palette.

To draw different shapes select one of the Box, Line, or Lines routines. Circle and ellipse will be available in the final version. These routines are used for drawing in the VIRTUOSO Software Editors (Geometric, and Sprite) and in the Path Animation Editor. Move the cursor over your selection, Press the Trigger.

In the draw routines, as you move your stylus on the Touch Tablet or move your Joystick, the cursor moves in the same direction and at the same time on the screen. When the cursor is where you want the draw routine to begin, Press the Trigger. VIRTUOSO Software draws continuous preview images as the cursor moves. When you find the size and position you want for that routine, Press the Trigger again to "fix" that shape on the screen. You can modify Objects at any time by adding other shapes, changing routines or moving to other Editors.

4.1 GRAPHIC OBJECT EDITOR

FIGURE 4.1 GRAPHIC OBJECT EDITOR MENU

BK	C1	C2	C3		
GEOMETRIC		SPRITE			
BOX	LINE	LINES	ERASE	1	9
FILL		ON	OFF	2	10
LOAD		SAVE		3	11
TO ANIMATION		P	S	4	12
EXIT TO SHOW EDITOR			R	5	13
				6	14
				7	15
				8	16

To select a drawing Color:

In this version, the default drawing colors are: (C1) green, (C2) Yellow, (C3) Light Blue, (BK) Black. Colors do not reflect palette changes until you create a Graphic Palette Region in the Show. To select the current drawing color, move the cursor over one of the four color icons and Press the Trigger.

After you have selected a color, any draw command (Line, Lines, Boxes, Fill) will be drawn in that color. In Geometric Object mode, you can change colors at any time.

NOTE: Only four colors (three + Background), are available in any one Palette. To change the color palette and create multiple color palette "Regions" on the same screen, use the (R) Regions Editor (accessed from the Show Editor).

GEOMETRIC OBJECT

Geometric is used to make multicolored Objects that can use all the VIRTUOSO Software Animators. The first point you draw in an Object becomes the center point for that Object. This is the point from which all Animations will originate. (You will be able to decide the location of center points for Objects in the final version.)

VIRTUOSO Software has size limitations for the draw and Animation functions. To provide maximum flexibility for Animation of Geometric Objects, VIRTUOSO Software limits the length of single Lines to 60 pixels. You can, however, connect Lines and Boxes to construct larger Geometric Objects.

NOTE: The more complex your Object is, the slower the Animations will execute. Inserting complex Geometric Objects into the Show will slow down all Objects animating at that time.

When using VIRTUOSO Software, experiment with small Objects and short Animations until you become familiar with the program and its potential.

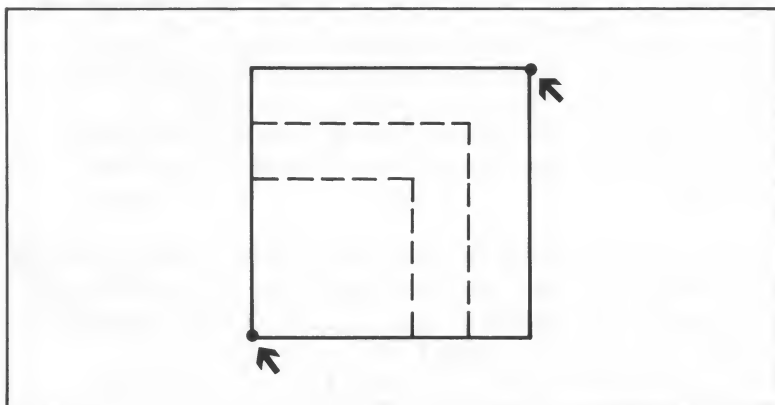
SPRITE OBJECT

Sprite mode is used for drawing special Graphic Objects that can move faster than Geometric Objects. Sprite Objects are single color Objects that have visual priority: they appear in front of all other Objects.

Use Sprite mode to draw small Objects that can be made to move faster than Geometric Objects. Unscaled Sprites have a size boundary of 8 horizontal pixels and 127 vertical pixels.

NOTE: Sprites do not Scale vertically. Horizontal Scale factors apply to Sprites only in increments of 2 and 4 times the original size.

FIGURE 4.2 BOX



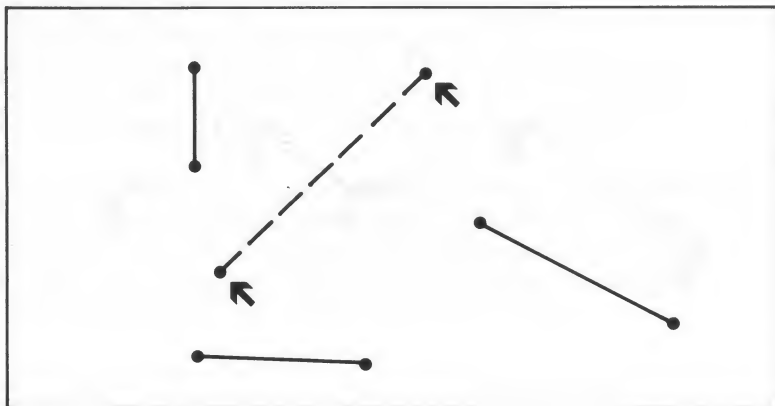
BOX

Use the Box routine to draw unfilled Boxes.

Place the cursor where you want a Box to begin, Press the Trigger. As you move the cursor a continuous preview Box will appear. When you see the Box you want, Press the Trigger to "fix" that shape on the screen.

To draw more Boxes move the cursor to another position and repeat the procedure.

FIGURE 4.3 LINE

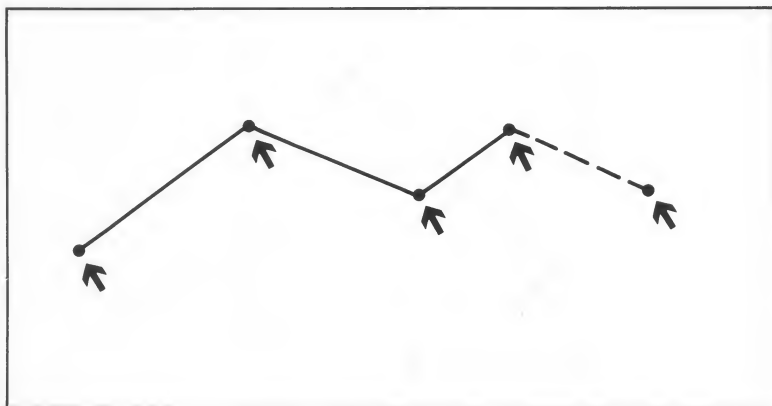


LINE

Use the Line routine to draw single Line Segments.

Place the cursor where you want the Line to begin, Press the Trigger: as you move the cursor a continuous preview of the Line will appear. When you locate the end point you want, Press the Trigger again. To draw more single Line segments move the cursor to another position on the screen and repeat the procedure.

FIGURE 4.4 LINES



LINES

Use the Lines routine to draw a connected series of Line Segments.

Place the cursor where you want the Lines to begin, Press the Trigger: as you move the cursor a continuous preview of the Lines will appear. When you locate the end point of the Lines segment, Press the Trigger again. This end point becomes the starting point of the next segment. Move the cursor to the next end point, Press the Trigger again. Each time you Press the Trigger, the Line you are drawing ends and becomes the starting point for the next Line. Repeat until you have completed a connected Lines segment. To draw more Lines segments raise the menu and repeat the procedure.

FILL OFF/ON

Fill Off is the default mode of the VIRTUOSO Software. Fill On will make a filled shape using the current color. (In the final version, Fill will be used to flood selected areas of the screen with color.)

Fill On must be selected before you draw your shape. A shape is any enclosed area that is part of an Object. You will not see the Fills occur until you select View. View will cause the Object on the screen to redisplay your shape with the drawn Fills On or Off.

In using Lines, Fill will occur whenever Fill is On and you draw any kind of enclosed shape. This gives you the ability to Fill sections of your shape by switching Fill On and Off while drawing. For example: you can draw a series of Filled and Unfilled Boxes in the same shape by switching Fill On and Off as you draw your Boxes. The Fill color will always be the same color as the border of the enclosed area.

Fill can be used in both Geometric and Sprite modes. In making a Show, you can have up to four Filled Geometric and three Filled Sprite Objects at one time on the screen. (In the final version you will be able to have 8 Geometrics, 3 Sprites and 4 Missiles). The three available Sprites can be either Filled or Unfilled.

NOTE: Filled Objects will animate slower than wire frame Objects. Inserting Filled Geometric Objects into the Show will slow down all Objects animating at that time.

LOAD

Use Load to add an Object from the numeric Grid into the Graphic Editor. Inverted numbers on the Grid indicate stored Objects.

Select Load, then place the cursor over an inverted number on the numeric Grid, Press the Trigger to Load a Graphic Object from the selected number. This will lower the menu. Place cursor on the area of the screen where you want to Load the Object and Press the Trigger again. The Object will appear at that location.

SAVE

Use Save to save an Object from the Graphic Editor to the current numeric Grid. Saving over an inverted number replaces the Object stored at that location.

Select Save, place the cursor over a number on the numeric Grid, Press the Trigger to Save the Graphic Object to the selected number. The number will invert, indicating that the current Object has been stored.

To Save Objects and Animations:

- (1) Save unAnimated Objects on the Graphic Object Editor Grid
- (2) Save Animations on the Animation Editor Grids
- (3) Save an Animated Object to the Graphic Object Editor Grid. (To Save an Animated Object return to the Graphic Object Editor from the Animation Editors and save the Object to the Grid.)

NOTE: Even if you Save Animations in their Editors, if you want them to be associated with specific Objects, you must return to the Graphic Object Editor and Save them with that Object.

WARNING

REMEMBER: If you place the cursor over an inverted number, you will replace the Object previously stored at that number with the new Object, and your previous work will be lost.

TO ANIMATION PATH, SCALE AND ROTATION

Use To Animation P, S, R to take a current Graphic Object to one of the three Animation Editors, (P=Path, S=Scale, R=Rotate).

Place the cursor over the P, S or R position on the To Animation line, Press the Trigger. This will take the Object to the selected Animation Editor.

Once you are in one of the Animation Editors, follow the instruction for that Editor.

EXIT TO SHOW EDITOR

Takes you back to the same point in time from which you left the Show Editor.

4.2 GRAPHIC ANIMATION EDITORS

The Animation Editor is used to create motion animations for Graphic Objects. A Graphic Object consists of a shape which can be animated in the Path, Scale and Rotate Editors.

NOTE: In VIRTUOSO Software terminology, an Object made up from multiple shapes is treated as one Object: any Animations that you apply to an Object effects the entire Object.

Animations can be stored in their individual library Grids and can be linked to a specific Object and stored with that Object in the Graphic Object Editor. If you want Animations to be stored with specific Objects you must return to the Graphic Object Editor after creating your Animations and store the Object.

The numeric library Grids (1-32) are displayed on the Graphic Object and Animation Editors. Use Load to Load Objects and Animations into an Editor from the Grid. Use Save to Save the Objects or Animations to the Grid.

NOTE: In VIRTUOSO Software terminology, Path, Scale and Rotate are Graphic Animations. In Scale mode, draw small Objects. Scaled Objects that exceed 60 X 60 pixel boundary conditions will not Scale smoothly. Rotations that exceed the 60 X 60 pixel boundary limitation will not rotate smoothly.

NOTE: (1) You can not create an Animation without an Object as a reference. You can take any Object in the Show Editor or in the Graphic Control Editor to the Animation Editors. (2) You can store Animations without the Object in the Animation library Grids. Any Animation can be applied to any Object in the Show. (3) You can create an Object without Animations, and then create a series of Animations to be later applied to that Object.

For example: you might have an unanimated Object in a Show that you want to begin animating later in the time stream: (1) store the Object on its Grid without Animations, (2) use the Object in the Animation Editor to create the Animations you want, (3) store the Animations only in the Animation Grid, (4) Insert the Animation into the Show.

The idea is to let you apply any Animations to any Object in the Show. For example: you might want to create a series of Paths to be sequentially applied to various Objects in the Show. You must use an Object when you create your initial Animations so that the Animations can be previewed. Once you have created and stored an Animation you can apply that Animation to any Object in the Show.

Animations stored with an Object become a part of that Object but can be saved independently in Animation Editors.

Animation Editors can only be accessed from the Graphic Editor and from each other.

Animation Editors can also be accessed from the Show Editor, through the Graphic Object Editors.

4.3 PATH ANIMATION EDITOR

FIGURE 4.5 PATH ANIMATION EDITOR

BOX		LINE	LINES
RUN		CLEAR	SET SPEED
LOAD		SAVE	
SET INCREMENT			
TO ANIMATION		S	R
EXIT TO SHOW EDITOR			
EXIT TO GRAPHIC EDITOR			

1

2

3

4

5

6

7

8

9

10

11

12

13

14

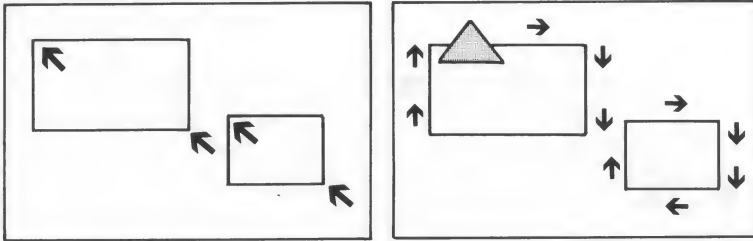
15

16

The Path Animation Editor is used to create Geometric motion Paths for Graphic Objects. Objects travel along the perimeter of the drawn Path. You can not create a Path unless you bring an Object to the Path Animation Editor.

Use the available Box, Line and Lines functions in the Path Animation Editor to create a Path. The Object will follow Animations in the order in which they are drawn. The Set Speed function allows you to set the speed at which an Object travels along its Path.

FIGURE 4.6 BOX PATH



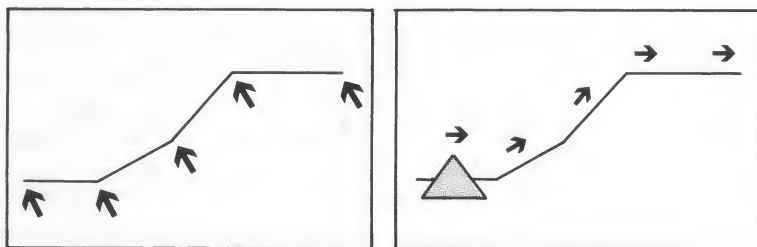
BOX

Use the Box routine to draw paths in the shape of boxes.

Place the cursor where you want the Box path to begin, Press the Trigger. As you move the cursor a continuous preview Box will appear. When you see the Box path size you want, Press the Trigger to "fix" that Box path.

To draw more Box paths move the cursor to another position on the screen and repeat the procedure. To see the Object follow the Box path you have drawn, select Run. The Object will follow multiple Paths in the order they were drawn.

FIGURE 4.7 LINE(S) PATH



LINE

Use the Line routine to draw single Line path segments.

Place the cursor where you want the Line path to begin, Press the Trigger: as you move the cursor a continuous preview of the Line will appear. When you locate the end point you want, Press the Trigger again.

To draw more single Line paths move the cursor to another position on the screen and repeat the procedure.

To see the Object follow the Line path you have drawn, select Run. The Object will follow multiple Paths in the order they were drawn.

LINES

Use the Lines routine to draw a connected series of Lines path segments.

Place the cursor where you want the Lines path to begin, Press the Trigger: as you move the cursor a continuous preview of the Lines will appear. When you locate the end point of the Lines path segment, Press the Trigger again. This end point becomes the starting point of the next segment. Move the cursor to the next end point, Press the Trigger again. Each time you Press the Trigger, the Lines you are drawing end and becomes the starting point for the next Lines. Repeat until you have completed a connected Lines Path.

NOTE: To end the Animation and disengage the cursor, Press the Trigger twice, or raise the Menu.

To draw more Lines segments raise the menu and repeat the procedure. To see the Object follow the Lines Path you have drawn, select Run Path. The Object will follow multiple Paths in the order they were drawn.

RUN

Select Run to preview an Object traveling along a Path shape.

CLEAR

Select Clear to reset the Path Animation Editor.

SET SPEED

Any Animation can have its own speed setting. Use Set Speed to make an Object move faster or slower during the execution of its Animation.

Select Set Speed, a Speed menu will appear on the bottom of the screen. The numbers 1 - 20 indicate the available Speed settings. (1=fastest, 20=slowest) The default Speed is 10. To change the Speed place the cursor over one of the numbers, Press the Trigger. The selected number will invert. The Speed selected will be saved with the Object.

(In the final version, you will be able to set variable Speeds for Animations).

SET INCREMENT

Use Set Increment to increase the Speed of the Path Animation. VIRTUOSO Software uses a drawing routine that allows you to control how frequently the Object is redrawn on the screen as it moves along its Path Animation.

There are 160 horizontal pixels in the ATARI computer. The greater the space between redraws, the faster the Object appears to move. Experiment by increasing and decreasing the Increment number as you Run your Path Animation. (In the final version, you will be able to set variable Increments for Animations).

LOAD

Use Load to add a Path from the numeric Grid into the Path Animation Editor.

Select Load, then place the cursor over an inverted number on the numeric Grid, Press the Trigger. This will lower the menu. Place cursor on the area of the screen where you want to load the Path and Press Trigger again. The Path will be loaded at that location. To preview the Path with the Object, select Run.

SAVE

Use Save to save a path from the Path Animation Editor to the current numeric Grid.

Select Save, then place the cursor over a number on the numeric Grid, Press the Trigger. The number will invert, indicating that the current Path has been stored.

To Save Objects and Animations:

- (1) Save unanimated Objects on the Graphic Object Editor Grid.
- (2) Save Animations on the Animation Editor Grids.
- (3) Save an Animated Object to the Graphic Object Editor Grid. (To Save an Animated Object return to the Graphic Object Editor from the Animation Editors and save the Object to the Grid.)

NOTE: Even if you Save Animations in their Editors, if you want them to be associated with specific Objects, you must return to the Graphic Object Editor and Save them with that Object.

WARNING

REMEMBER: If you place the cursor over an inverted number, you will replace the Path previously stored at that number with the new Path, and your previous work will be lost.

TO ANIMATION ROTATION, SCALE

Use TO Animation to take a current Graphic Object and its Path to either the Rotation or Scale Animation Editor. (Path=P, Scale=S).

Place the cursor over the S or R position on the To Animation Line and Press the Trigger. This will take you to the selected Animation Editor.

Once you are in one of the Animation Editors, follow the instruction for that Editor.

EXIT TO SHOW EDITOR

Takes you back to the same point in time where you left the Show Editor.

EXIT TO GRAPHIC OBJECT EDITOR

Takes you back to the Graphic Object Editor to Save your Animated Object.

4.4 SCALE ANIMATION EDITOR

FIGURE 4.8 SCALE ANIMATION EDITOR MENU

DRAW SCALE SEQUENCE				
RUN	CLEAR	SET SPEED		
LOAD		SAVE		
TO ANIMATION			P	R
EXIT TO SHOW EDITOR				
EXIT TO GRAPHIC EDITOR				

1

2

3

4

5

6

7

8

9

10

11

12

13

14

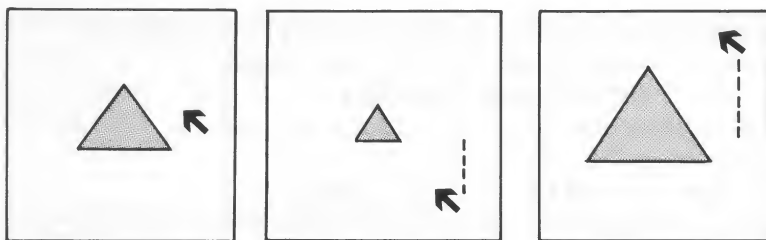
15

16

The Scale Animation Editor is used to make an Object proportionally grow and shrink around its center point. The placement of the center point determines from which point the Object will Scale. Speed determines how fast the Object Scales.

NOTE: Center point in this version is defined as the first point drawn in the Object. You may manipulate the center point by starting your Object with a short Line where you want the center point to be located.

FIGURE 4.9 DRAW SCALE SEQUENCE



DRAW SCALE SEQUENCE

Use Draw Scale Sequence to create a sequence of proportional size changes to the Object.

The cursor will appear in the center of the screen.
Moving the cursor up will increase the Object's size.
Moving the cursor down will decrease the Object's size.
Press the Trigger when you are finished to register the Scale sequence.

NOTE: The boundaries of the Touch Tablet or Koala Pad may be insufficient to complete one direction of your Scale sequence. If this occurs, pick up the stylus, move it back to the center and continue Scaling in that direction.

RUN

Select Run to view a complete Scale sequence.

CLEAR

Select Clear to reset the Scale Animation Editor.

SET SPEED

Any Animation can have its own Speed setting. Use Set Speed to make an Object move faster or slower during the execution of its Animation.

Select Speed and Press the Trigger. A Speed menu will appear on the bottom of the screen. The numbers 1 - 20 indicate the available Speeds. (1=fastest, 20=slowest) The default Speed is 10. To change the Speed place the cursor over one of the numbers, Press the Trigger. The selected number will invert. The Speed selected will be saved with the Object.

(In the final version, you will be able to set variable Speeds for Animations).

LOAD

Use Load to add a scale from the numeric Grid into the Scale Animation Editor.

Select Load, then place the cursor over an inverted number on the numeric Grid, Press the Trigger. This will lower the menu. Place cursor on the area of the screen where you want to load the Scale and Press Trigger again. The Scale will be loaded at that location. To preview the Scale with the Object, select Run.

SAVE

Use Save to save a scale from the Scale Animation Editor to the current numeric Grid.

Select Save, then place the cursor over a number on the numeric Grid, Press the Trigger. The number will invert, indicating that the current Scale has been stored.

To Save Objects and Animations:

- (1) Save unanimated Objects on the Graphic Object Editor Grid.
- (2) Save Animations on the Animation Editor Grids.
- (3) Save an Animated Object to the Graphic Object Editor Grid. (To Save an Animated Object return to the Graphic Object Editor from the Animation Editors and save the Object to the Grid.)

NOTE: Even if you Save Animations in their Editors, if you want them to be associated with specific Objects, you must return to the Graphic Object Editor and Save them with that Object.

WARNING

REMEMBER: If you place the cursor over an inverted number, you will replace the Scale previously stored at that number with the new Scale, and your previous work will be lost.

TO ANIMATION PATH, ROTATION

Use To Animation to take a current Graphic Object and its Scale to either the Path or Rotation Animation Editor. (Path=P, R=Rotation).

Place the cursor over the P or R position on the To Animation line, Press the Trigger. This will take you to the selected Animation Editor.

Once you are in one of the Animation Editors, follow the instruction for that Editor.

EXIT TO SHOW EDITOR

Takes you back to the same point in time where you left the Show Editor.

EXIT TO GRAPHIC OBJECT EDITOR

Takes you back to the Graphic Object Editor to Save your Animated Object.

4.5 ROTATION ANIMATION EDITOR

FIGURE 4.10 SCALE ANIMATION EDITOR

DRAW ROTATION SEQUENCE		
RUN	CLEAR	SET SPEED
LOAD		SAVE
TO ANIMATION	P	S
EXIT TO SHOW EDITOR		
EXIT TO GRAPHIC EDITOR		

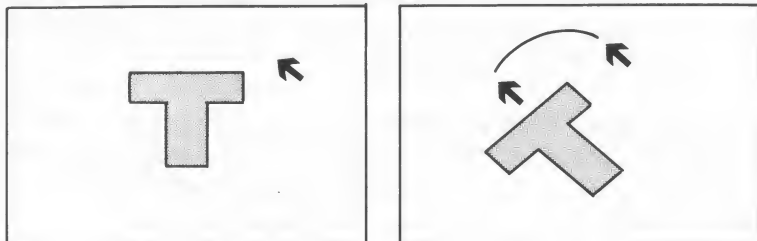
1	9
2	10
3	11
4	12
5	13
6	14
7	15
8	16

The Rotation Animation Editor is used to spin an Object around its center point.

NOTE: Center point in this version is defined as the first point drawn in the Object. You may manipulate the center point by starting your Object with a short Line where you want the center point to be located.

Use Draw Rotation Sequence to spin an Object clockwise and counterclockwise in a two dimensional plane. Depending upon the placement of the center point, the Object will spin in place or moves around the screen. Set Speed determines how fast the Object rotates.

FIGURE 4.11 DRAW ROTATION SEQUENCE



DRAW ROTATION SEQUENCE

Use Draw Rotation Sequence to spin a Graphic Object around its center point.

The cursor will appear at a preset point on Object. Move the cursor clockwise or counterclockwise around the screen to rotate the Object. Press the Trigger to register the Rotation.

To see the Object follow the Rotations you have created, select Run.

RUN

Select Run to preview a complete Rotation Sequence.

CLEAR

Select Clear to reset the Rotation Animation Editor.

SET SPEED

Any Animation can have its own speed setting. Use Set Speed to make an Object move faster or slower during the execution of its Animation.

Select Set Speed, a Speed menu will appear on the bottom of the screen. The numbers 1 - 20 indicate the available Speed settings. (1=fastest, 20=slowest) The default Speed is 10. To change the Speed place the cursor over one of the numbers, Press the Trigger. The selected number will invert. The Speed selected will be saved with the Object.

(In the final version, you will be able to set variable Speeds for Animations).

LOAD

Use Load to add a rotation from the numeric Grid into the Rotation Animation Editor.

Select Load, then place the cursor over an inverted number on the numeric Grid, Press the Trigger. This will lower the menu. Place cursor on the area of the screen where you want to load the Rotation and Press Trigger again. The Rotation will be loaded at that location. To preview the Rotation with the Object, select Run.

SAVE

Use Save to save a rotation from the Rotation Animation Editor to the current numeric Grid.

Select Save, then place the cursor over a number on the numeric Grid, Press the Trigger. The number will invert, indicating that the current Rotation has been stored.

To Save Objects and Animations:

- (1) Save unanimated Objects on the Graphic Object Editor Grid.
- (2) Save Animations on the Animation Editor Grids.
- (3) Save an Animated Object to the Graphic Object Editor Grid. (To Save an Animated Object return to the Graphic Object Editor from the Animation Editors and save the Object to the Grid.)

NOTE: Even if you Save Animations in their Editors, if you want them to be associated with specific Objects, you must return to the Graphic Object Editor and Save them with that Object.

WARNING

REMEMBER: If you place the cursor over an inverted number, you will replace the Rotation previously stored at that number with the new Rotation, and your previous work will be lost.

TO ANIMATION PATH, SCALE

Use To Animation to take a current Graphic Object and its Rotation to either the Path or Scale Animation Editor. (Path=P, Scale=S).

EXIT TO SHOW EDITOR

Takes you back to the same point in time where you left the Show Editor.

EXIT TO GRAPHIC OBJECT EDITOR

Takes you back to the Graphic Object Editor to Save your Animated Object.

Place the cursor over the P or S position on the To Animation Line and Press the Trigger. This will take you to the selected Animation Editor.

Once you are in one of the Animation Editors, follow the instruction for that Editor.

5.0 MUSIC AND ANIMATION EDITORS

The Music Editor is used to create original music or to select Library music to be synchronized with your Show.

In this version we have provided the basic tools for composition. Our concentration was to make Graphic flexibility a reality. Real-time Graphic animation is essential to our development of interactive musical control. The new music editors we have developed will be in the final version.

In the final version, the Music Editor will become a flexible tool for creating new music. You will be able to make detailed edits, copy and move sections, transpose pitch, rhythm and volumes readily; coordinate graphic and music activities into interactive control scenarios and develop sophisticated musical ideas.

Atari computers provide four individual musical "voices" which are accessed and controlled through the Music Editors. VIRTUOSO Software allows you to control each voice independently through a notation system equivalent to standard musical notation symbols.

NOTE: To prevent confusion, note, pitch and frequency are synonymous. Note is used to indicate any frequency or pitch generated by the Atari. (In this version only the pitches that are equivalent to those of traditional piano scales are available. In the final version, all the pitches the Atari can generate will be available).

Notes or groups of notes are considered Objects and can be Animated. Music Animators in this version are: Shift, Key, Envelope and Amplitude. These Animators function the same way as the Graphic Animators, they are used to move Objects. (In the final version there will be more Animators: Volume, Rhythm, Speed, Travel, Pivot, Step, Slide).

Notes that are organized into patterns of whole step and half step intervals are said to be in a Key. Music

is in a Key when it conforms to a particular organization of intervals. For example the pattern of steps for the Key of C Major is: Whole-Whole-Half-Whole-Whole-Whole-Half (W W H W W W H). The notes are: C D E F G A B C. The interval are: C to D = Whole step, D to E = Whole step, E to F = Half step, F to G = Whole step, G to A = Whole step, A to B = Whole step, B to C = Half step.

The pattern for any Major Key is W W H W W W H. Regardless of the starting note, if you follow the pattern, you get the Major Key. The same W W H W W W H pattern when applied to the starting note D produces the D Major Key: D, E, F sharp, G, A, B, C sharp, D.

In VIRTUOSO Software there are two ways to Shift (transpose) the starting note position of your Music Objects. These two Animators are: Key and Shift.

Key is used to transpose the starting note of the original Object to another starting note and to change all the remaining notes of the Object into a new Key pattern. The intervals between the notes of the original Object and the Key transposed Object will remain the same but they will be played in another Key.

For example: If the original Object was in C Major and had the notes C, E, F, G, A, C, and the Key Animation indicated D Major, the result would be D, F sharp, G, A, B, D.

Shift is used to change the starting note of the original Object and to keep the remaining notes in the same Key. The intervals between the notes of the Object will not remain constant but the Key will be maintained. This is a typical type of transposition.

For example: If the original Object was in C Major and had the notes C, E, F, G, A, C, and the Shift Animation indicated a Shift to the note D, the result would be D, F, G, A, B, D.

Introduction to the Music Editor:

The upper section of the Music Object Editor, the Composition Screen, is used for composing Object note patterns. There are four standard musical Stacks (5 lines and 4 spaces) for drawing notes and rests, as well as for placing Measure lines and Object Boundary markers.

NOTE: Each of the Stacks represents one music voice. Objects can only be composed in one voice at a time.

The lower section of the Music Object Editor has two menus:

1. the Icon menu, which controls the composition functions.
2. the Music Command menu, which accesses the Animation Editors.

To toggle between these two menus, Press the Pad Button.

Use the Icon menu to access the icons for musical composition, Clef, Rhythm, Measure Lines, Object Boundary markers, Rests, Incidentals (natural, sharp and flat); the Normal, Replace, Move, Insert, and Delete status modes; Percussion, and the page right/page left markers.

Any Icon you select will change color from default-grey to its appropriate color until another selection is made.

In music, an Object is a group of notes in one voice. This version has one voice Objects only. (In the final version, Objects can have up to four voices). Objects must be designated by the Object Boundary marker and saved in the Music Editor Library Grid. Music Objects

are treated the same as Graphic Objects; once they are saved, they can be Animated.

Music Objects are saved in the Music Object Library Grid. Animations are saved in their appropriate Animation Library Grids and can be saved with the original Object in the Music Object Editor.

NOTE: Animations must be applied to Objects. You can not create an animation without an Object. You can create an Object without Animations, and then create a series of Animations to be later applied to that or any other Object. For example: you might want to have an unanimated Music Object in the Show that you want to begin animating later in the time stream: (1) store the Music Object on its Object Library Grid without Animations, (2) use the Object in the Animation Editors to create the Animations you want, (3) store the Animation in the Animations Library Grid, (4) Insert the Animation in the Show from the Show Editor.

You must use an Object when you create your initial Animations so that your Animations can be previewed.

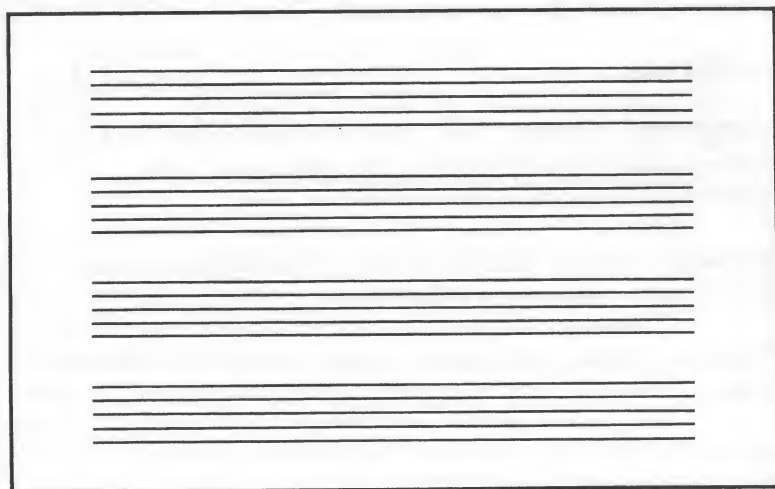
Once you have created and stored an animation you can apply that Animation to any Object in the Show.

Animations stored with an Object become part of that Object but can also be saved independently in their Animation Editors.

Music Animation Editors are accessed from the Music Object Editor, from each other, and from the Show Editor.

5.1 MUSIC OBJECT EDITOR

FIGURE 5.1 COMPOSITION MENU



Use the Composition Screen to draw your music.

The screen displays four music Stacks. A Staff is a series of lines and spaces, which are used to designate the relative positioning of notes. The notes on the top lines and spaces are higher notes than those on the bottom. This is true for any Staff.

Color Code:

VIRTUOSO Software uses a color coded system to differentiate between notes, rests, and notes with Incidentals (natural, sharp or flat).

Icons first appear in default-grey and change to their appropriate color when selected.

Notes are yellow and can be placed on any Staff line or space.

Rests are light blue and are automatically placed on the middle line of the Staff.

Incidental Naturals are white and are placed on any Staff line or space.

Incidental Sharps are green and are placed on any Staff line or space.

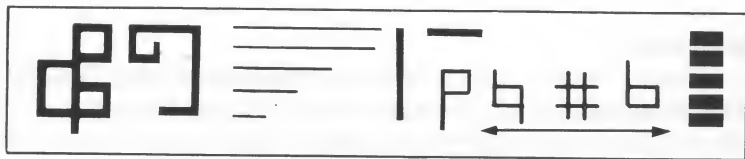
Incidental Flats are purple and are placed on any Staff line or space.

The **Staffs**, **Clef** symbols, **Measure** lines, and **Object Boundary** symbols and **Percussion** are blue.

The **Status markers**; Normal, Replace, Move, Insert, and Delete, are red.

5.1.1 MUSIC ICON MENU

FIGURE 5.2 ICON MENU



The icons on the bottom of this screen are: Clef Signs (G/Treble and F/Bass); Rhythmic duration symbols (whole note, half note, quarter note, eighth note and sixteenth note); Measure line; Object Delineation marker; Rest Indicators; Percussion, Page right/left markers; Incidental Symbol (Natural, Sharp and Flat); Status markers (Normal, Replace, Move, Insert, and Delete).

For musical flexibility there are two common Staff Clefs, (G/Treble and F/Bass). Clefs determine the position of the one note from which all others on that Staff are determined.

CLEFS

To select a Clef, move the cursor over one of the two symbols, Press the Trigger. Then move the cursor to the Staff you wish to designate in that Clef, Press the Trigger.

The Clef symbol appears on their appropriate line as a blue box when inserted on the Staff.

The G/Treble Clef places the note G above Middle C on the second from the bottom line. The F/Bass Clef places the note F below Middle C on the fourth from the bottom line.

RHYTHMS

To compose music with VIRTUOSO Software, you must select a duration for each note. The horizontal Rhythm lines indicate the length of the notes. The longer the line, the longer the note. In standard notation the terms whole, half, quarter, eighth, and sixteenth equate to the length of the VIRTUOSO Software lines.

FIGURE 5.3 RHYTHMIC LENGTH EQUIVALENTS

whole note	-----	
half note	-----	
quarter note	----	
eighth note	--	
sixteenth note	-	

Move the cursor over your selection, Press the Trigger. Then move the cursor to the line or space on the Staff where you want a note, Press the Trigger.

The rhythm value you select will be placed as a yellow note on a Staff each time you Press the Trigger. To compose with notes of different rhythmic values, move the cursor to the rhythm icons, select another value, and repeat the procedure.

MEASURE LINES

If you want to have traditional looking metric relationships, you can place a Measure line at appropriate positions on the Staff. The placement of Measure lines is for your convenience and has no bearing on performance of the music.

Move the cursor over the Measure line icon, Press the Trigger. Then move the cursor to the position on the Staff where you want to place the Measure line, Press the Trigger.

OBJECT BOUNDARY

Use Object Boundary to signify the end of any Music Object. Once you have composed your Music Object you must place an Object Boundary at the end of the last note in order to Save the Object.

Move the cursor over the Object Boundary icon, Press the Trigger. Move the cursor to the position on the Staff where you want your Music Object to end, Press the Trigger.

When you place the Object Boundary after the last note, the Music Object Library Grid will appear. Move the cursor over the number on the Grid where you want to Save your Object, Press the Trigger.

NOTE: Object Boundary markers signify the end of an Object. Animations can then be added to that Object. Do not confuse Measure lines and Object Boundary markers.

WARNING

REMEMBER: If you place the cursor over an inverted number you will replace the Music Object previously stored with the new Music Object, and your previous work will be lost.

NOTE: You can compose long linear pieces and continue to write music, note after note, measure after measure, line after line, in the traditional style of composition but you will exceed the available memory and will limit your capabilities in generating Shows.

The best way to use VIRTUOSO Software is to create short Music Objects and link them together in the Show Editor. A short musical Object can be easily Animated, whereas the longer the composition is, the more difficult it is to animate.

In VIRTUOSO Software, Objects can only be designated by individual voices. You can not have multi-voiced Objects. To create multi-voiced Objects and Animations you must synchronize the voices in the Show Editor.

The idea in Music is to compose small patterns of notes and store them as Objects. Later you can apply Animations to your Music Objects. For example: you can make a short melodic pattern of notes and then create a series of Shift Animations to be sequentially applied in the Show.

REST INDICATOR

Use Rest Indicators to create areas of silence within a composition. Rests have the same rhythmic value as notes. You must select a rhythmic value for each rest you use in your composition.

To select a Rest, move the cursor over the Rest Indicator icon, Press the Trigger. Then move the cursor anywhere on a Staff, Press the Trigger.

The Rest Indicators appear on the third line of the Staff as light blue lines in the selected rhythmic value.

If you are replacing a previously drawn note value, the original note will be erased and the light blue line will appear in its place.

If you use a shorter rhythmic value than the original note, part of the original note will remain. If you want a shorter value, use Delete mode. To have a rhythmic value longer than the original note you must use Insert mode.

PAGE RIGHT/LEFT MARKERS

On each Page of the composition screen you can compose a maximum of 64/16th notes or their equivalent in other rhythmic values. At the end of each page you can "turn the page" to add more composition space.

Select the Page Right arrow on the bottom of the Icon menu and the composition screen will readjust by moving over to the left, leaving blank composition area on the right. To move back in time (left) or forward in time (right) through your music use the Left Page or Right Page markers.

INCIDENTAL SYMBOLS

Use one of the three Incidental Symbols when you want to change a note from the Key you have selected to one that is not part of that Key. (See Section 5.2 for description of commands).

Once you have selected a Key for your Music Objects you may want to alter individual notes in the course of composition. In VIRTUOSO Software these alterations are called Incidentals. (Accidentals in most music texts).

NOTE: Incidental icons toggle on and off. Move the cursor over an icon, Press the Trigger to turn it on. Move the cursor over the same icon, Press the Trigger again to turn it off. Once selected, an Incidental icon will remain in effect until you toggle it off or select a different Incidental icon.

In this version you can only compose notes which correspond to the frequency of notes on the Staffs. (The Atari can generate many notes that are not part of the G/Treble and F/Bass Clefs. These will be available in the final version).

Sharp raises a note one-half step. Flat lowers a note one-half step. Natural will effect notes of the original Key by lowering the sharps or raising the flats one-half step. A half-step is the smallest distance available between two adjacent notes.

Move the cursor over one of the three Incidental icons: Natural, Sharp or Flat, Press the Trigger. The next note you draw or move the cursor over, will be altered to that Incidental.

Move the cursor to the line or space of the Staff where you want to place a new note or alter a drawn note, Press the Trigger.

The rhythm value for notes will remain constant, depending on the icon selected the notes will be placed as a white (Natural), green (Sharp) or purple (Flat), rhythmic line on a Staff each time you Press the Trigger. To compose new Incidentals with notes of different rhythmic values, move the cursor to the rhythm icons, select another value, and continue.

If you are replacing a previously drawn note, that note will change color. If you are drawing a new note, it will be drawn in the Incidental color.

STATUS INDICATORS:

At the extreme right of the Icon menu are five Status Indicator flags. These flags when lit (Red) indicate the composition mode you are in. The five composition modes are: Normal (top flag), Replace (second), Move (third), Insert (fourth), Delete (bottom).

Normal status means that when you move the cursor over one of the Staff lines and Press the Trigger, the note will draw in the selected rhythm and the cursor will automatically jump to the end of the note into position to compose the next note. In this status you can not go back and change the notes.

Replace status means that the cursor is free to be placed over any note on the Staffs and will replace any note with another note (of the same rhythmic value) or with notes (of smaller values, but adding up to the same total value as the original). Use replace for changing notes to incidentals or rests.

Move status lets you change the position of any note on a Staff. Select Move status, place the cursor over the note you want to change, Press the Trigger and hold it down. Move the cursor up or down to the new position for the note, Release the Trigger.

Notes will be moved to the new location in their present color status (original, natural, sharp, or flat).

Insert status is used to put new notes or rests between notes or rests you have composed. Use Insert to place a note or rest on any Staff. This action will cause all the notes to the right of the inserted note to move over to accommodate the inserted rhythmic value(s).

Delete status is used to remove any notes or rests from the time stream. Use Delete to remove any note or rest from any Staff. This action will cause all the notes to the right of the deleted note to move inward to close the gap made by the Deletion.

NOTE: Insert and Delete modes alter the alignment of harmonies between voices and can effect the rhythmic relationships in your composition.

5.1.2 MUSIC COMMAND MENU

Use the Music Command menu to access Run, Loop, Speed, New, Save, Load, and Compression functions; and the Shift, Key, Envelope, and Amplitude Animators.

The Command menu also determines which voices are "on" in edit mode. You can select any combination of voices that you want to hear while composing your music.

FIGURE 5.4 MUSIC COMMAND EDITOR

RUN	LOOP	SPEED	NEW		
SHIFT	KEY	ENVELOPE	AMPLITUDE		
SET TIME COMPRESSION			UP	00:00	DN
SAVE	LOAD	EXIT TO SHOW EDITOR			

RUN

Use Run to play through entire compositions or Music Objects. To Stop the Run of a composition raise the menu.

LOOP

Use loop to have the music you are composing in one or more voices continuously repeat. Loop mode toggles on and off. When loop is active that menu command will invert. Use Loop in conjunction with the voice selection to determine which voices you hear looping.

SPEED

Use Speed to select the speed at which your compositions or Objects will Run or Loop.

Select Speed, move your cursor over the number on the Speed menu that you want your music to Run in, Press the Trigger. (One is the fastest, twenty is the slowest).

NEW

Use New to erase all the music in the Music Editor. New will delete all the Events in the Music time stream and let you start from the beginning. New will not effect the contents of the Music Library Grids.

SAVE

Use Save to save your compositions to the Music Library Grid. Objects are saved when the Object Boundary marker is placed at the end of the Object. Linear compositions must be saved using the Save command.

Select Save, move the cursor over the number on the Music Library Grid where you want to save your compositions, Press the Trigger.

WARNING

REMEMBER: If you place the cursor over an inverted number, you will replace the Music previously saved at that number with new music, and your previous composition will be lost.

LOAD

Use Load to bring an Object or composition from the Music Library Grid into the Music Editor.

Select Load, move the cursor over the number on the Music Library Grid where the composition you want is saved, Press the Trigger.

COMPRESSION

VIRTUOSO Software has a unique method for viewing your compositions. In addition to looking at the Composition area of 64/16th notes you can look at different amounts of music "compressed" into the same viewing area. You can set the Compression clock to view up to four minutes of your music on one screen.

The compression clock can be set to display any amount of time, up to four minutes, then you can Page through your composition in compressed images of time. VIRTUOSO calculates the music you have composed and will proportionally compress the amount of time asked for onto single screens.

NOTE: The compression takes place from the point in time you are currently viewing. In compression mode you can only Page forward.

Move the cursor over the up or down indicators, Press the Trigger, to set the Compression clock to the amount of compressed music time you want to see. Move the cursor over the numbers on the compression clock, Press the Trigger, to calculate the time.

Compression has no effect on the performance of your music, this only a viewing feature.

EXIT

Use Exit to return to the Show Editor.

5.2 MUSIC ANIMATION EDITORS

Use the Music Animation Editors to create and insert animations into the Show.

Key is used to transpose the starting note of the original Object to another starting note and to change all the remaining notes of the Object into a new Key pattern. The intervals between the notes of the original Object and the Key transposed Object will remain the same but they will be played in another Key.

For example: If the original Object was in C Major and had the notes C, E, F, G, A, C, and the Key Animation indicated D Major, the result would be D, F sharp, G, A, B, D.

Shift is used to change the starting note of the original Object and to keep the remaining notes in the same Key. The intervals between the notes of the Object will not remain constant but the Key will be maintained. This is a typical type of transposition.

For example: If the original Object was in C Major and had the notes C, E, F, G, A, C, and the Shift Animation indicated a Shift to the note D, the result would be D, F, G, A, B, D.

To Insert Music Animations into the Show:

After you have created animations and saved them in Library Grids, use the Show Editor to Insert them into the Show.

1. Move the cursor to the Music voice number (1,2,3,4) you want to edit, Press the Trigger.
2. Move the cursor over (S) Shift, (K) Key, (A) Amplitude, or (E) Envelope on the Library Grids area to get the Library that you want, Press the Trigger to bring that Library to the Show Editor. The name of the Library will appear over the Library Grid.
3. Move the cursor to the number on the Library Grid that contains the Animation you want to Insert, Press the Trigger. The animation will be Inserted at that point in the Show.

5.2.1 SHIFT ANIMATION EDITOR

Use Shift to create a pattern of notes that will become the starting note for each sequential repeat of your original Object. Shift Animation is a transposer, every note is shifted up or down and the Key remains the same.

In Shift mode you draw a series of notes, ending with the Object Boundary marker. When you apply this Shift pattern to a Music Object the result will make the Object "follow the Shift path", playing sequentially, starting on each note of the Shift pattern. In Shift mode you can only create patterns in one Key.

Use Compression to see the entire Shift Animated Object.

Select Envelope on the Command menu, move the cursor over one of the preset Envelopes that will appear, Press the Trigger. Use the Save procedures to save the Envelopes with an Object. The Envelope will be saved on the Library Grid, Press the Trigger.

of notes you want the Objects to be sequentially animated by, place the Objects Boundary marker at the end of your pattern, select a Library number for storage.

You can either Save the Shift pattern with the Object on the Object Library Grid, or by itself on the Shift Animator Library Grid and later apply it to Objects in the time stream of a Show.

Follow the Insert Animation procedures for Inserting Shift Animations into the Show.

5.2.2 KEY ANIMATION EDITOR

Use Key to create a pattern of notes that will become the starting note for each sequential repeat of your original Object. Key Animation is a transposer, every note is moved the same interval up or down and the Key changes with each new starting note.

In Key mode you select a series of Keys and Key types. When you apply this Key pattern to a Music Object the result will make the Object "follow the Key path", playing sequentially, starting on each Key of the pattern.

Use Compression to see the entire Object and Key Animation.

Use Key to create a series of Key changes through which your Music Objects can be Animated.

Select Key on the Command menu. A new menu with selections for Key note and Key type will appear. There are three columns of choices in the Key selection menu.

FIGURE 5.5 KEY SELECTION MENU

KEY NOTE	INCIDENTAL	TYPE	ABBR.
C		MAJOR	M
D		NATURAL MINOR	NM
E	SHARP	HARMONIC MINOR	HM
F		CHROMATIC	CH
G	FLAT	PENTATONIC	P
A		WHOLE TONE	WT
B		BLUES ONE	B1
		BLUES TWO	B2
		JAZZ ONE	J1
		JAZZ TWO	J2

Move the cursor over one of the Key Note selections. Press the Trigger; (optional choice of sharp or flat); move the cursor over one of the Key Types, press the Trigger.

A numbered list of your current choices will appear on the bottom of the screen in the order in which you made them. (In this version the list is not selectable for editing, you must recreate it to make changes).

NOTE: In this version you can set a maximum of 32 Key changes for each Animation. You can Save 16 different Key animations.

The Object will change Keys each time it is repeated, or until you select Stop animation in the Show Editor.

You can either Save the Key pattern with the Object on the Object Library Grid, or by itself on the Animator Library Grid and later apply it to Objects in the time stream of a Show.

Follow the Insert Animation procedures for Inserting Key Animations into the Show.

NOTE: Be careful in your selection of Keys. If you have created an Object in a Key with seven notes and you transpose to a Key with only five notes something has to give. We have done our best to make compensations for this kind of problem but the results can be unpredictable.

5.2.3 ENVELOPE ANIMATION EDITOR

In this version there are four preset Envelopes to choose from. (In the final version you will be able to create your own Envelopes).

The preset Envelopes determine the beginning (attack) parameter of your notes. The choices are: very sharp attack; sharp attack; slow attack; and very slow attack.

NOTE: The attack quality of each preset will vary with the Speed chosen for the Object.

You can only apply one Envelope to each Object. (In the final version you will be able to create multiple Envelopes for each Object).

Select Envelope on the Command menu, move the cursor over one of the preset Envelopes that will appear, Press the Trigger. Use the Save procedures to save the Envelopes with an Object. The Envelope will be saved on the Library Grid, Press the Trigger.

Follow the Insert Animation procedures for Inserting Envelopes into the Show.

5.2.4 AMPLITUDE ANIMATION EDITOR

In this version there are eight Amplitude settings to choose from.

The Amplitude settings determine the loudness of softness of the notes of your Music Object.

FIGURE 5.6 AMPLITUDE VALUES

1	fff	very, very loud
2	ff	very loud
3	f	loud
4	mf	medium loud
5	mp	medium soft
6	p	soft
7	pp	very soft
8	ppp	very, very soft

When you select Amplitude, a screen with the eight Amplitude markers and your Music Object will appear, the top marker is for the loudest amplitude, the bottom marker is for the softest.

Draw your Amplitude using the rhythm icons. You do not have to use the same rhythm for the amplitudes that you used for the notes. The Amplitude pattern will be applied to the Object in whatever rhythm you draw.

The Amplitude animation pattern can have their own speed factors. VIRTUOSO Software will automatically compensate for the difference in speed of execution between the Object and the Amplitude patterns. If the Amplitude pattern is faster than the Object, the Amplitude will repeat as many times as necessary to complete the performance of the Object. If the Amplitude is slower than the Object, only that part of the Amplitudes pattern executable within the speed of the Objects' performance will occur.

On the Amplitude creation screen you can see both your Object and your Amplitude patterns. What you see in terms of the rhythmic relationship between them is what you will hear when they are run together.

Select Amplitude on the Command menu. Move the cursor over one of the Objects on the screen, Press the Trigger. One music Staff will appear, containing your Object. Below the Object will be eight markers for the construction of the Amplitudes. Use the rhythmic icons to construct your Amplitude pattern.

Move the cursor over one of the rhythmic icons, Press the Trigger. Move the cursor to one of the amplitude markers, Press the Trigger. The Amplitude will be drawn in the selected rhythm.

You can either Save the Amplitude pattern with the Object on the Object Library Grid, or by itself on the Amplitude Animation Library Grid and later apply it to Objects in the time stream of the Show.

Follow the Insert Animation procedures for Inserting Amplitude Animations into the Show.

TIME CLOCKS STATUS LINE

On the bottom of the screen two clocks are present. The clock on the left tells you the elapsed time of your composition or Object. The clock on the right tells you the current viewing time of your composition.

6.0 TEXT OBJECT EDITOR AND ANIMATION EDITORS

The Text Object and Animation Editors are used to create animated Text Objects to be used in a Show.

6.1 TEXT OBJECT EDITOR

The Text Object Editor is a simple word processor for writing Text to be used in a Show. A Text Object consists of words or letters grouped as Objects which can be Animated by either a right to left Scroll, or a left to right Scroll. Set the Text Scroll direction and the Scroll Speed in the Scroll Animation Editor. (In the final version, variable speed and four directional scrolling will be available.)

In the Text Editor, you can Save and Load Text Objects using the Text Library Grid. The Grid (1-16) is displayed when you Press Esc L (Load) or Esc S (Save). Press CTRL S to access the Scroll Animation Editor.

All Text Editor commands are executed using the keyboard. The Text Object Editor differs from the other VIRTUOSO Editors in that it does not use the touch pad or joystick for operation.

Text Regions and Palettes are set in the (R) Region Editor, accessed through the Show Editor. You can set up to 8 Text Regions, each with an individual three-color palette. (See Section 3.3 for command descriptions).

NOTE: Coordinate the number of lines in the Text Object with the size of the Text Region. In Scroll the entire Text Object will appear in any size Region beginning at the lower right corner and scroll to the upper left

corner ascending line by line through the Region. If you want to have block lines of Text Objects appear in the Show you must make a Text Region the size of each block of Text you want.

LOAD (Esc L)

Use Load to load a Text Object from the Text Library Grid to the Text Editor. Inverted numbers on the Grid indicate stored Objects.

Press Esc L to raise the Text Library Grid. Using the arrow keys on your keyboard, place the cursor over an inverted number on the Grid, Press Return. The menu will drop, and the selected Text will be loaded into the word processor.

SAVE (Esc S)

Use to Save a Text Object to the Text Library Grid.

Press Esc S to raise the Text Library Grid. Using the arrow keys on your keyboard, move the cursor over a number on the Grid, Press Return to Save the Text Object to the selected number. The Library Grid will drop. Next time the Grid is raised, that number will be inverted.

WARNING

Remember: If you place the cursor over an inverted number, you will replace the Text Object previously stored at that number with the new Text Object, and the previous work will be lost.

6.2 SCROLL ANIMATION EDITORS

Use the Scroll Animation Editor to sequentially move the letters of a Text Object either left to right or right to left within a Text Region. Use Set Speed to determine how fast the Text will scroll.

FIGURE 6.1 SCROLL ANIMATION EDITOR MENU

SCROLL LEFT		SCROLL RIGHT	
SET SCROLL SPEED			
CLEAR	LOAD	SAVE	
EXIT TO TEXT EDITOR			

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

SCROLL LEFT

Use Scroll Left to move a Text Object from the right to the left of the screen within a Region.

SCROLL RIGHT

Use Scroll Right to move a Text Object from the left to the right of the screen within a Region.

SET SCROLL SPEED

Use Set Speed to determine how fast a Text Object Scrolls within a Region.

Select Set Speed. Move the cursor over a number (1-20) for the speed you want, Press the Trigger.

CLEAR

Use Clear to reset the Scroll Animation Editor.

LOAD

Use Load to add a Scroll Animation from the numeric Grid to the Scroll Animation Editor.

Select Load, then place the cursor over an inverted number on the numeric Grid, Press the Trigger. The menu will drop, and the selected Scroll will be loaded into the Scroll Animation Editor.

SAVE

Use Save to save a Scroll Animation with its Speed to the Scroll Library Grid.

Select Save, then move the cursor over a number on the numeric Grid, Press the Trigger. The number will invert, indicating that the current Scroll has been stored.

WARNING

REMEMBER: If you place the cursor over an inverted number, you will replace the Scroll previously stored at that number with the new Scroll, and your previous work will be lost.

EXIT TO SHOW EDITOR

Takes you back to the same point in time where you left the Show Editor.

EXIT TO TEXT EDITOR

Take you back to the Text Object Editor to Save your Animated Object.

TEXT KEYBOARD COMMANDS

CTRL DELETE	DELETE CURRENT CHARACTER
DELETE	DELETE PREVIOUS CHARACTER
CTRL UP ARROW	CURSOR UP
CTRL DOWN ARROW	CURSOR DOWN
CTRL LEFT ARROW	CURSOR LEFT
CTRL RIGHT ARROW	CURSOR RIGHT
CTRL U	PAGE UP
CTRL D	PAGE DOWN
CTRL T	TOP OF TEXT
CTRL B	BOTTOM OF TEXT
CTRL F	FIRST CHARACTER OF SCREEN
CTRL L	LAST CHARACTER OF SCREEN
CTRL I	INSERT MODE/OVERTYPE TOGGLE
CTRL S	TO SCROLL ANIMATION EDITOR
ESC C	CLEAR
ESC E	EXIT TO SHOW EDITOR
ESC L	LOAD TEXT
ESC S	SAVE TEXT



END PAGE

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